

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Application No. 09/988,373

PATENT APPLICATION
Atty. Docket No. Q66793

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) An image processing apparatus having an image reading unit for reading an image per line from a sheet-like recording medium by applying a laser beam to the sheet-like recording medium and scanning the sheet-like recording medium with the laser beam in a main scanning direction, comprising:

a controller dedicated for controlling reading of the image from the sheet-like recording medium, said controller being operable in synchronism with a main scanning synchronizing signal supplied thereto;[[.]]

an erasing unit for erasing image information carried on said sheet-like recording medium after said image is read therefrom; and wherein

a period of scanning one line of image comprises an effective reading period and an ineffective reading period, and said controller comprises means for detecting an erasing level in said ineffective reading period.

2. (Cancelled).

3. (Currently Amended) An image processing apparatus ~~according to claim 1,~~ having an image reading unit for reading an image per line from a sheet-like recording medium by applying a laser beam to the sheet-like recording medium and scanning the sheet-like recording medium with the laser beam in a main scanning direction, comprising:

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Application No. 09/988,373

PATENT APPLICATION
Atty. Docket No. Q66793

a controller dedicated for controlling reading of the image from the sheet-like recording medium, said controller being operable in synchronism with a main scanning synchronizing signal supplied thereto; and wherein

wherein a period of scanning one line of image comprises an effective reading period and an ineffective reading period, said controller comprises means for detecting at least an error during an said ineffective reading period in a period of reading one line of image.

4. (Original) An image processing apparatus according to claim 3, wherein said error-detecting means includes means for measuring the period of said main scanning synchronizing signal.

5. (Currently Amended) An image processing apparatus according to claim ~~[[1]]~~ 3, further comprising:

an erasing unit for erasing image information carried on said sheet-like recording medium after said image is read therefrom;

said controller comprising means for detecting an erasing level ~~for said erasing unit in an said ineffective reading period in a period of reading one line of image.~~

6. (Currently Amended) An image processing apparatus according to claim 5, wherein said erasing-level detecting means includes means for holding a maximum value of the level of an image signal from ~~the~~ a line to be read.

7. (Cancelled).

8. (Currently Amended) An image processing apparatus according to claim ~~[[2]]~~ 3, wherein said controller comprises means for performing shading correction on the image to be read

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Application No. 09/988,373

PATENT APPLICATION
Atty. Docket No. Q66793

in at least an effective reading period, and wherein said shading-correction performing means comprises:

means for converting an image signal representing the read image from analog image data into digital image data;

means for reading shading corrective data in synchronism with a reference clock signal;

means for adding said digital image data and said shading corrective data into combined data; and

means for outputting the combined data.

9. (Currently Amended) An image processing apparatus according to claim [[2]] 8, further comprising:

a deflector for deflecting the laser beam to scan said sheet-like recording medium in the main scanning direction while the laser beam is being applied to said sheet-like recording medium, said deflector having a plurality of facets,

said shading-correction performing means performing shading correction depending on facet characteristics of each of said facets of the deflector.

10. (Currently Amended) An image processing apparatus according to claim [[1]] 3, wherein said controller comprises means for generating a signal to manage displaying of the image in synchronism with said main scanning synchronizing signal.

11. (Currently Amended) The image processing apparatus of claim [[1]] 3, further comprising a second controller, said second controller dedicated for controlling the feeding of the sheet-like recording medium in reciprocating fashion.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Application No. 09/988,373

PATENT APPLICATION
Atty. Docket No. Q66793

12. (Previously Presented) The image processing apparatus of claim 11, further wherein the second controller further controls an erasing unit for erasing the sheet-like recording medium after said reading.

13. (Previously Presented) The image processing apparatus of claim 12, further wherein said controller dedicated for controlling reading of the image further supplies said second controller with corrective signals for said erasing unit, said corrective signals correlated in amplitude with a highest scanned phosphorescent response to said laser beam.

14. (Previously Presented) The image processing apparatus of claim 11, further wherein the second controller further controls a cassette loading unit for loading cassettes of said sheet-like recording medium.

15. (Currently Amended) The image processing apparatus of claim [[1]] 3, further comprising a second controller performing at least one of feeding the sheet-like recording medium, loading the sheet-like recording medium, and erasing the sheet-like recording medium.

16. (Previously Presented) The image processing apparatus of claim 15, wherein said second controller interoperates with the controller for controlling reading.

17. (Previously Presented) The image processing apparatus of claim 16, wherein the second controller comprises a separate processor from the controller for controlling reading.

18. (New) An image processing apparatus having an image reading unit for reading an image per line from a sheet-like recording medium by applying a laser beam to the sheet-like recording medium and scanning the sheet-like recording medium with the laser beam in a main scanning direction, comprising:

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Application No. 09/988,373

PATENT APPLICATION
Atty. Docket No. Q66793

a controller dedicated for controlling reading of the image from the sheet-like recording medium, said controller being operable in synchronism with a main scanning synchronizing signal supplied thereto, and wherein said controller comprises means for performing shading correction on the image to be read in at least an effective reading period, and further wherein said controller comprises means for detecting at least an error during said at least an effective reading period; and wherein

said shading-correction performing means comprises:

means for converting an image signal representing the read image from analog image data into digital image data;

means for reading shading corrective data in synchronism with a reference clock signal;

means for adding said digital image data and said shading corrective data into combined data; and

means for outputting the combined data.

19. (New) An image processing apparatus according to claim 18, further comprising:

a deflector for deflecting the laser beam to scan said sheet-like recording medium in the main scanning direction while the laser beam is being applied to said sheet-like recording medium, said deflector having a plurality of facets,

said shading-correction performing means performing shading correction depending on facet characteristics of each of said facets of the deflector.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Application No. 09/988,373

PATENT APPLICATION
Atty. Docket No. Q66793

20. (New) An image processing apparatus according to claim 18, wherein said controller comprises means for generating a signal to manage displaying of the image in synchronism with said main scanning synchronizing signal.

21. (New) The image processing apparatus of claim 18, further comprising a second controller, said second controller dedicated for controlling the feeding of the sheet-like recording medium in reciprocating fashion.

22. (New) The image processing apparatus of claim 21, further wherein the second controller further controls an erasing unit for erasing the sheet-like recording medium after said reading.

23. (New) The image processing apparatus of claim 22, further wherein said controller dedicated for controlling reading of the image further supplies said second controller with corrective signals for said erasing unit, said corrective signals correlated in amplitude with a highest scanned phosphorescent response to said laser beam.

24. (New) The image processing apparatus of claim 21, further wherein the second controller further controls a cassette loading unit for loading cassettes of said sheet-like recording medium.

25. (New) The image processing apparatus of claim 18, further comprising a second controller performing at least one of feeding the sheet-like recording medium, loading the sheet-like recording medium, and erasing the sheet-like recording medium.

26. (New) The image processing apparatus of claim 25, wherein said second controller interoperates with the controller for controlling reading.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Application No. 09/988,373

PATENT APPLICATION
Atty. Docket No. Q66793

27. (New) The image processing apparatus of claim 26, wherein the second controller comprises a separate processor from the controller for controlling reading.

28. (New) An image processing apparatus having an image reading unit for reading an image per line from a sheet-like recording medium by applying a laser beam to the sheet-like recording medium and scanning the sheet-like recording medium with the laser beam in a main scanning direction, comprising:

a first controller dedicated for controlling reading of the image from the sheet-like recording medium, said first controller being operable in synchronism with a main scanning synchronizing signal supplied thereto, and wherein said first controller comprises means for performing shading correction on the image to be read in at least an effective reading period, and further wherein said first controller comprises means for detecting at least an error during said at least an effective reading period;

a deflector for deflecting the laser beam to scan said sheet-like recording medium in the main scanning direction while the laser beam is being applied to said sheet-like recording medium, said deflector having a plurality of facets, and

said shading-correction performing means performing shading correction depending on facet characteristics of each of said facets of the deflector.

29. (New) An image processing apparatus having an image reading unit for reading an image per line from a sheet-like recording medium by applying a laser beam to the sheet-like recording medium and scanning the sheet-like recording medium with the laser beam in a main scanning direction, comprising:

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Application No. 09/988,373

PATENT APPLICATION
Atty. Docket No. Q66793

a first controller dedicated for controlling reading of the image from the sheet-like recording medium, said first controller being operable in synchronism with a main scanning synchronizing signal supplied thereto, and wherein said first controller comprises means for performing shading correction on the image to be read in at least an effective reading period, and further wherein said first controller comprises means for detecting at least an error during said at least an effective reading period; and

a second controller, said second controller dedicated for controlling the feeding of the sheet-like recording medium in reciprocating fashion.

30. (New) The image processing apparatus of claim 29, further wherein the second controller further controls a cassette loading unit for loading cassettes of said sheet-like recording medium.

31. (New) An image processing apparatus having an image reading unit for reading an image per line from a sheet-like recording medium by applying a laser beam to the sheet-like recording medium and scanning the sheet-like recording medium with the laser beam in a main scanning direction, comprising:

a first controller dedicated for controlling reading of the image from the sheet-like recording medium, said first controller being operable in synchronism with a main scanning synchronizing signal supplied thereto, and wherein said first controller comprises means for performing shading correction on the image to be read in at least an effective reading period, and further wherein said first controller comprises means for detecting at least an error during said at least an effective reading period; and

a second controller; wherein

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Application No. 09/988,373

PATENT APPLICATION
Atty. Docket No. Q66793

said first controller supplies said second controller with corrective signals for an erasing unit, said corrective signals correlated in amplitude with a highest scanned phosphorescent response to said laser beam.

32. (New) The image processing apparatus of claim 31, further wherein said second controller further controls a cassette loading unit for loading cassettes of said sheet-like recording medium.

33. (New) The image processing apparatus of claim 31, further wherein said second controller performs at least one of feeding the sheet-like recording medium, loading the sheet-like recording medium, and erasing the sheet-like recording medium.

34. (New) The image processing apparatus of claim 33, wherein said second controller interoperates with said first controller.

35. (New) The image processing apparatus of claim 34, wherein the second controller comprises a separate processor from the first controller.

36. (New) An image processing apparatus having an image reading unit for reading an image per line from a sheet-like recording medium by applying a laser beam to the sheet-like recording medium and scanning the sheet-like recording medium with the laser beam in a main scanning direction, comprising:

a first controller dedicated for controlling reading of the image from the sheet-like recording medium, said first controller being operable in synchronism with a main scanning synchronizing signal supplied thereto, and wherein said first controller comprises means for performing shading correction on the image to be read in at least an effective reading period, and further wherein said

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Application No. 09/988,373

PATENT APPLICATION
Atty. Docket No. Q66793

first controller comprises means for detecting at least an error during said at least an effective reading period; and

a second controller; said second controller performing at least one of feeding the sheet-like recording medium, loading the sheet-like recording medium, and erasing the sheet-like recording medium.

37. (New) The image processing apparatus of claim 36, wherein said second controller interoperates with said first controller.

38. (New) The image processing apparatus of claim 37, wherein the second controller comprises a separate processor from the first controller.